

Matthew R Bennett

List of Publications by Year in descending order

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Version: 2024-02-01

68
papers

4,428
citations

186265
28
h-index

114465
63
g-index

76
all docs

76
docs citations

76
times ranked

4280
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 1 | Allosteric regulation within the highly interconnected structural scaffold of <scp>AraC</scp>/<scp>XylS</scp> homologs tolerates a wide range of amino acid changes. <i>Proteins: Structure, Function and Bioinformatics</i> , 2022, 90, 186-199. | 2.6 | 0 |
| 2 | Strategies for Improving Small-Molecule Biosensors in Bacteria. <i>Biosensors</i> , 2022, 12, 64. | 4.7 | 17 |
| 3 | Stochastic Neural Networks for Automatic Cell Tracking in Microscopy Image Sequences of Bacterial Colonies. <i>Mathematical and Computational Applications</i> , 2022, 27, 22. | 1.3 | 2 |
| 4 | RNA Compensation: A Positive Feedback Insulation Strategy for RNA-Based Transcription Networks. <i>ACS Synthetic Biology</i> , 2022, 11, 1240-1250. | 3.8 | 5 |
| 5 | A suppressor tRNA-mediated feedforward loop eliminates leaky gene expression in bacteria. <i>Nucleic Acids Research</i> , 2021, 49, e25-e25. | 14.5 | 17 |
| 6 | Macrolide Biosensor Optimization through Cellular Substrate Sequestration. <i>ACS Synthetic Biology</i> , 2021, 10, 258-264. | 3.8 | 14 |
| 7 | Control of synthetic microbial consortia in time, space, and composition. <i>Trends in Microbiology</i> , 2021, 29, 1095-1105. | 7.7 | 40 |
| 8 | Improved pyrrolysine biosynthesis through phage assisted non-continuous directed evolution of the complete pathway. <i>Nature Communications</i> , 2021, 12, 3914. | 12.8 | 8 |
| 9 | Emergent spatiotemporal population dynamics with cell-length control of synthetic microbial consortia. <i>PLoS Computational Biology</i> , 2021, 17, e1009381. | 3.2 | 20 |
| 10 | Bayesian inference of distributed time delay in transcriptional and translational regulation. <i>Bioinformatics</i> , 2020, 36, 586-593. | 4.1 | 27 |
| 11 | Majority sensing in synthetic microbial consortia. <i>Nature Communications</i> , 2020, 11, 3659. | 12.8 | 47 |
| 12 | A synthetic system for asymmetric cell division in <i>Escherichia coli</i> . <i>Nature Chemical Biology</i> , 2019, 15, 917-924. | 8.0 | 29 |
| 13 | Bacterial Killers Engineered to Exterminate Pathogenic Microbes. <i>Molecular Cell</i> , 2019, 75, 5-6. | 9.7 | 4 |
| 14 | Spatiotemporal Dynamics of Synthetic Microbial Consortia in Microfluidic Devices. <i>ACS Synthetic Biology</i> , 2019, 8, 2051-2058. | 3.8 | 54 |
| 15 | Long-range temporal coordination of gene expression in synthetic microbial consortia. <i>Nature Chemical Biology</i> , 2019, 15, 1102-1109. | 8.0 | 44 |
| 16 | Moran model of spatial alignment in microbial colonies. <i>Physica D: Nonlinear Phenomena</i> , 2019, 395, 1-6. | 2.8 | 14 |
| 17 | Improved memory devices for synthetic cells. <i>Science</i> , 2018, 360, 150-151. | 12.6 | 5 |
| 18 | Tuning the dynamic range of bacterial promoters regulated by ligand-inducible transcription factors. <i>Nature Communications</i> , 2018, 9, 64. | 12.8 | 121 |

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|----|--|------|-----------|
| 19 | Dynamics of Bacterial Gene Regulatory Networks. <i>Annual Review of Biophysics</i> , 2018, 47, 447-467. | 10.0 | 20 |
| 20 | Synthetic Biology and the Gut Microbiome. <i>Biotechnology Journal</i> , 2018, 13, e1700159. | 3.5 | 35 |
| 21 | Predicting Transcriptional Output of Synthetic Multi-input Promoters. <i>ACS Synthetic Biology</i> , 2018, 7, 1834-1843. | 3.8 | 16 |
| 22 | Bistability and oscillations in co-repressive synthetic microbial consortia. <i>Quantitative Biology</i> , 2017, 5, 55-66. | 0.5 | 28 |
| 23 | The Timing of Transcriptional Regulation in Synthetic Gene Circuits. <i>ACS Synthetic Biology</i> , 2017, 6, 1996-2002. | 3.8 | 30 |
| 24 | Modeling mechanical interactions in growing populations of rod-shaped bacteria. <i>Physical Biology</i> , 2017, 14, 055001. | 1.8 | 31 |
| 25 | Tunable NF- κ B Oscillations in Yeast. <i>Cell Systems</i> , 2017, 5, 440-442. | 6.2 | 0 |
| 26 | Using cellular fitness to map the structure and function of a major facilitator superfamily effluxer. <i>Molecular Systems Biology</i> , 2017, 13, 964. | 7.2 | 6 |
| 27 | Effects of cell cycle noise on excitable gene circuits. <i>Physical Biology</i> , 2016, 13, 066007. | 1.8 | 4 |
| 28 | Stability of Systems with Stochastic Delays and Applications to Genetic Regulatory Networks. <i>SIAM Journal on Applied Dynamical Systems</i> , 2016, 15, 1844-1873. | 1.6 | 12 |
| 29 | The Effects of Time-Varying Temperature on Delays in Genetic Networks. <i>SIAM Journal on Applied Dynamical Systems</i> , 2016, 15, 1734-1752. | 1.6 | 11 |
| 30 | AlloRep: A Repository of Sequence, Structural and Mutagenesis Data for the LacI/GalR Transcription Regulators. <i>Journal of Molecular Biology</i> , 2016, 428, 671-678. | 4.2 | 18 |
| 31 | The relationship between stochastic and deterministic quasi-steady state approximations. <i>BMC Systems Biology</i> , 2015, 9, 87. | 3.0 | 43 |
| 32 | Timing and Variability of Galactose Metabolic Gene Activation Depend on the Rate of Environmental Change. <i>PLoS Computational Biology</i> , 2015, 11, e1004399. | 3.2 | 10 |
| 33 | Emergent genetic oscillations in a synthetic microbial consortium. <i>Science</i> , 2015, 349, 986-989. | 12.6 | 272 |
| 34 | Sources of Variability in a Synthetic Gene Oscillator. <i>PLoS Computational Biology</i> , 2015, 11, e1004674. | 3.2 | 16 |
| 35 | Modeling delay in genetic networks: From delay birth-death processes to delay stochastic differential equations. <i>Journal of Chemical Physics</i> , 2014, 140, 204108. | 3.0 | 26 |
| 36 | Synthetic biology: the many facets of T7 RNA polymerase. <i>Molecular Systems Biology</i> , 2014, 10, 745. | 7.2 | 25 |

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|----|---|------|-----------|
| 37 | Engineered temperature compensation in a synthetic genetic clock. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 972-977. | 7.1 | 70 |
| 38 | Molecular Mechanisms that Regulate the Coupled Period of the Mammalian Circadian Clock. <i>Biophysical Journal</i> , 2014, 106, 2071-2081. | 0.5 | 41 |
| 39 | The Validity of Quasi-Steady-State Approximations in Discrete Stochastic Simulations. <i>Biophysical Journal</i> , 2014, 107, 783-793. | 0.5 | 64 |
| 40 | Modular, Multi-Input Transcriptional Logic Gating with Orthogonal LacI/GalR Family Chimeras. <i>ACS Synthetic Biology</i> , 2014, 3, 645-651. | 3.8 | 79 |
| 41 | Transcriptional Delay Stabilizes Bistable Gene Networks. <i>Physical Review Letters</i> , 2013, 111, 058104. | 7.8 | 60 |
| 42 | Measuring Competitive Fitness in Dynamic Environments. <i>Journal of Physical Chemistry B</i> , 2013, 117, 13175-13181. | 2.6 | 17 |
| 43 | Biochar and Microbial Signaling: Production Conditions Determine Effects on Microbial Communication. <i>Environmental Science & Technology</i> , 2013, 47, 11496-11503. | 10.0 | 174 |
| 44 | Library of synthetic transcriptional AND gates built with split T7 RNA polymerase mutants. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 5028-5033. | 7.1 | 123 |
| 45 | Mapping the Environmental Fitness Landscape of a Synthetic Gene Circuit. <i>PLoS Computational Biology</i> , 2012, 8, e1002480. | 3.2 | 118 |
| 46 | Stable Maintenance of Multiple Plasmids in <i>E. coli</i> Using a Single Selective Marker. <i>ACS Synthetic Biology</i> , 2012, 1, 445-450. | 3.8 | 14 |
| 47 | Modeling synthetic gene oscillators. <i>Mathematical Biosciences</i> , 2012, 236, 1-15. | 1.9 | 55 |
| 48 | Antagonistic gene transcripts regulate adaptation to new growth environments. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 21087-21092. | 7.1 | 30 |
| 49 | Stochastic Delay Accelerates Signaling in Gene Networks. <i>PLoS Computational Biology</i> , 2011, 7, e1002264. | 3.2 | 71 |
| 50 | Evolutionary fates within a microbial population highlight an essential role for protein folding during natural selection. <i>Molecular Systems Biology</i> , 2010, 6, 387. | 7.2 | 38 |
| 51 | Evolution of a single gene highlights the complexity underlying molecular descriptions of fitness. <i>Chaos</i> , 2010, 20, 026107. | 2.5 | 6 |
| 52 | Overpowering the component problem. <i>Nature Biotechnology</i> , 2009, 27, 450-451. | 17.5 | 11 |
| 53 | Microfluidic devices for measuring gene network dynamics in single cells. <i>Nature Reviews Genetics</i> , 2009, 10, 628-638. | 16.3 | 224 |
| 54 | Delay-Induced Degrade-and-Fire Oscillations in Small Genetic Circuits. <i>Physical Review Letters</i> , 2009, 102, 068105. | 7.8 | 130 |

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|----|--|------|-----------|
| 55 | Metabolic gene regulation in a dynamically changing environment. <i>Nature</i> , 2008, 454, 1119-1122. | 27.8 | 274 |
| 56 | A fast, robust and tunable synthetic gene oscillator. <i>Nature</i> , 2008, 456, 516-519. | 27.8 | 1,079 |
| 57 | Genome rewired. <i>Nature</i> , 2008, 452, 824-825. | 27.8 | 13 |
| 58 | Surviving the Bottleneck: Transmission Mutants and the Evolution of Microbial Populations. <i>Genetics</i> , 2008, 180, 2193-2200. | 2.9 | 31 |
| 59 | A synthetic gene network for tuning protein degradation in <i>Saccharomyces cerevisiae</i> . <i>Molecular Systems Biology</i> , 2007, 3, 127. | 7.2 | 89 |
| 60 | Phenotypic variability of growing cellular populations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 18982-18987. | 7.1 | 39 |
| 61 | Transient Dynamics of Genetic Regulatory Networks. <i>Biophysical Journal</i> , 2007, 92, 3501-3512. | 0.5 | 64 |
| 62 | A DNA methylation-based switch generates bistable gene expression. <i>Nature Genetics</i> , 2007, 39, 146-147. | 21.4 | 13 |
| 63 | Potential energy landscape and finite-state models of array-enhanced stochastic resonance. <i>Physical Review E</i> , 2006, 73, 031107. | 2.1 | 18 |
| 64 | TOWARDS A UNIFIED RATE THEORY OF STOCHASTIC RESONANCE. <i>Fluctuation and Noise Letters</i> , 2006, 06, L405-L413. | 1.5 | 0 |
| 65 | Stochastic resonance in the mechano-electrical transduction of hair cells. <i>Physical Review E</i> , 2005, 72, 051911. | 2.1 | 17 |
| 66 | STOCHASTIC RESONANCE IN HAIR CELL MECHANO-ELECTRICAL TRANSDUCTION. <i>Fluctuation and Noise Letters</i> , 2004, 04, L1-L10. | 1.5 | 10 |
| 67 | Averaged equations for distributed Josephson junction arrays. <i>Physica D: Nonlinear Phenomena</i> , 2004, 192, 196-214. | 2.8 | 4 |
| 68 | Huygens's clocks. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2002, 458, 563-579. | 2.1 | 368 |